G-000-709.19

2644

REPONSE TO ITEMS A1-A3 OF THE RADIATION DISCHARGE INFORMATION SECTION OF THE FFCA FOR THE FMPC

05/12/87

USEPA/DOE
3
LETTER

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

2644

REPLY TO THE ATTENTION OF:
5ME-14

12 MAY 1987

Mr. James A. Reafsnyder
Site Manager, Feed Materials Production Center
U.S. Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37831

Dear Mr. Reafsnyder:

The Region V Office of the U.S. Environmental Protection Agency (USEPA) has reviewed the Response to Items A1-A3 of the Radiation Discharge Information Section of the Federal Facilities Compliance Agreement for the Feed Materials Production Center (FMPC) in Fernald, Ohio.

Our comments on the document are as follows:

° Section 2.1, page 11 states that neither the Department of Energy (DOE) nor the USEPA have standards for soil radionuclide levels. The document further states that whole body dose equivalents and critical organ doses are reported for verification of compliance with NESHAPS (National Emission Standards for Hazardous Air Pollutants). The effective dose equivalent is given as a weighted average of committed dose equivalents to specific organs. Conformance with the radionuclide NESHAPS of 40 CFR 61 does not include using a weighted average for organ doses as stated in this section.

While there may not be soil concentration standards specifically available, there are many reasonably applicable standards and criteria.

- Reliance is made upon a DOE soil contamination criteria of 35 picocuries per gram (pCi/gm) or an FMPC reference level of 34 pCi/gm. These levels will trigger additional investigation. Assuming this is natural uranium (which was the primary feedstock of the site for decades, and also the most protective assumption healthwise) then 10 pCi/gm is a more appropriate level relying upon Nuclear Regulatory Commission (NRC) uranium guidelines in 46 FR 52061 and 5 pCi/gm might be reasonable relying upon the radium content of the EPA's standards in 40 CFR 192.

- DOE standards of 1200 picocuries per liter (pCi/l) for uranium in drinking water are inappropriate for comparisons and decisions on health impacts. As you are well aware, our Agency is proposing

new drinking water standards for uranium in the 10 to 100 pCi/l range. Therefore, a finding of 10 pCi/l or greater in drinking water should warrant an immediate response.

- Based upon a determination by the USEPA's Office of Radiation Programs that the K-65 wastes stored at the Niagara Falls Storage Site should be treated in accordance with Subparts A and B of 40 CFR 191 and that the K-65 wastes stored at the FMPC are of the same origin and exceed 100 nanocuries per gram, these wastes should be isolated and treated as a high level transuranic waste in conformance with 40 CFR 191. The dose standards for interim storage specified in Subpart A should be met.

- Where immediately applicable radionuclide standards fail to exist, there are many reasonable substitutes that can be used when developing health and environmental guidelines for use at FMPC:

    * Radium in soil standards exist in EPA 40 CFR 192;

    * Uranium and thorium in soil criteria exist in the NRC technical position (46 FR 52061);

    * Transuranics in soil criteria exist in EPA's proposed 42 FR 60956;

    * gamma exposure rates applicable to exposure of the general public exist in 40 CFR 192;

    * Annual whole body exposure doses exist in EPA's 40 CFR 190 and 40 CFR 61.

    * Organ dose limits exist in EPA's Drinking Water Standards (40 CFR 141) and the Clean Air Act Standards (40 CFR 61).

  Application of these criteria may not be rigidly applicable, but can be reasonably applied. For example, if it is considered undesirable for people to receive more than 75 millirem (mrem) per year organ doses from radioactive air pollutants, then it might be reasonable to use 75 mrem per year as a food pathway dose criteria. We recommend that you and your staff develop specific guidelines for FMPC using the criteria sited above. We would be willing to meet and discuss the development of criteria with you.

- Section 4.1, page 18 details the use of alpha-track monitors. We recommend that alpha-track monitors only be used for radon-222 measurements. The instrument is not accurate in measuring thoron concentrations.

- Section 4.2, pages 18 and 20 and Section 6.1, pages 35 and 37 address the installation of continuous liquid discharge sample collectors at all discharge points. This action, specified in the Compliance Agreement, included one at or near Sample Point W6, discharging to Paddy's Run. According to this deliverable, DOE and Westinghouse Materials have both failed to install this monitor. This is an item of non-compliance in the Agreement and, therefore, this monitoring device should be installed immediately.

- Figure 8, page 22 displays the off-site monitoring well locations. We recommend additional wells be added to the east of the FMPC property lines between present monitoring wells 7 and 14 to better assess potential leakage from the Buried Effluent Line and to the west between present monitoring wells sites 2 and 10 to better assess potential impacts of known FMPC drainage in this area.

- Section 4.4, page 23 mentions that detailed procedures of the soil monitoring program are currently being revised. We suggest that this plan be submitted to USEPA for review once it is complete.

  In addition, the deliverable quotes a 6.5 part per million (ppm) uranium level in soils which is converted to 4.6 pCi/gm. Normally soils have uranium concentrations closer to 1.0 pCi/gm. This background level appears to be uncharacteristically high.

  Further, a 34.0 pCi/gm reference point of uranium content in soil is unacceptable as stated previously.

- Figure 11, page 27 displays Sample Point 5 to be on the rapidly moving side of the stream. Deposition occurs on the inside or slowly moving side of the stream. Therefore, sediment sampling should be moved to the depositional side of the stream.

- Section 2.3.1, page 54 states that the functional relationships for all aspects of the environmental compliance program will be specified at a later date. This information, an item requiring review, should have been completed before submittal to the USEPA.

- Section 3.0, page 63 should have included the complete set of implementing procedures in this deliverable. A full review cannot be performed until this information is made available.

Thank you for the opportunity to review this report. If you have any questions concerning our comments, please contact Ms. Amy Blumberg of my staff at 312/886-7342.

Sincerely yours,

William D. Franz

William D. Franz, Chief
Environmental Review Branch
Planning and Management Division